Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-13 are pending and have been examined.

2.   Claims 1-13 are rejected.

Priority

3.   Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an

application for patent filed in the United States may be entitled to the benefit of the filing date of

a prior application filed in a foreign country. The Examiner notes that there appears to be a prior

application filed in Taiwan with published November 21, 2004 with Publication Number TW

224273 B1.

4.   For original applications filed under 35 U.S.C. 111(a) (other than a design application) on

or after November 29, 2000, the time period is during the pendency of the application and within

the later of four months from the actual filing date of the application or sixteen months from the

filing date of the prior foreign application. For applications that have entered national stage from

an international application filed on or after November 29, 2000, after compliance with 35

U.S.C. 371, the claim for priority must be made during the pendency of the application and

within the time limit set forth in the PCT and the Regulations under the PCT. See 37 CFR

1.55(a)(1)(ii). If applicant desires priority under 35 U.S.C. 119(a)-(d), (f) or 365(a) based upon a

prior foreign application, applicant must file a petition for an unintentionally delayed priority

claim (37 CFR 1.55(c)). The petition must be accompanied by (1) the claim (i.e., the claim

required by 35 U.S.C. 119(a)-(d) and (f) and 37 CFR 1.55) for priority to the prior foreign

application, unless previously submitted; (2) a surcharge under 37 CFR 1.17(t); and (3) a

statement that the entire delay between the date the claim was due under 37 CFR 1.55(a)(1) and

the date the claim was filed was unintentional. The Director may require additional information

where there is a question whether the delay was unintentional. The petition should be addressed

to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-

1450.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this
> or a foreign country, before the invention thereof by the applicant for a patent.

6.   Claims 1-4, 6, 8-10, and 12-13 are rejected under 35 U.S.C. 102(a) as being anticipated

by the Intel Server Chassis SBCE and its various components available at least on August 2003

as evidenced by the article titled "Can a blade solve my computer server needs".

   a.   The evidentiary art proves that the Intel Server Chassis SBCE and its various

   components were publicly available at least by August 2003. The various compenents of

   the SBCE chassis include the Intel Server Compute blade SBXL52 and the Intel Server

   Management module SBCECMM. The SBXL52 Server Blade is functionally equivalent

   to the server of applicant's invention and references to features of applicant's servers will

   be made with respect to the SBXL52. Also, the SBCECMM is functionally equivalent to

the switching device of applicant's invention and references to features of applicant's switching device will be made with respect to SBCECMM.

b.   Independent claims 1 and 8 are substantially equivalent in that claim 8 is drawn to the method of operating the system of claim 1, therefore claim 8 is rejected on the same basis as those reasons disclosed below with respect to claim 1. Like wise all claims dependent upon claim 8 are substantially equivalent to claim 1 and its dependent claims as associated below.

c.   Regarding claims 1 and 8, the Intel Server Chassis SBCE discloses:

- An input/output (I/O) unit access switching system (SBCE Server Chassis), comprising:

- a plurality of servers (observe cover of article titled "Can a blade solve my computer server needs?) each comprising a control module (article titled "Intel® Server Compute Blade SBXL52"; page 2, "Front Panel Buttons")and an intelligent platform management interface (IPMI) having a baseboard management controller (BMC) (article titled "Intel® Server Compute Blade SBXL52"; page 1, "Features: ...Onboard baseboard management controller [BMC]...Benefits: ...Monitor and control server blade remotely, increasing server uptime and lowering management costs...");

- at least one input device (White paper titled "Simplifying Complexity Blades Management in the Data Center"; page 7, "Remote and local KVM...");

- at least one output device (White paper titled "Simplifying Complexity Blades Management in the Data Center"; page 7, "Remote and local KVM..."); and

- a switching device (Intel SBCECMM) comprising a microprocessor unit (Manual titled "Intel® Server Management Module SBCECMM: Installation and User's Guide"; page 1, "The service processor in the management module..."), an input function switching unit connected to the microprocessor unit (White paper titled "Simplifying Complexity Blades Management in the Data Center"; page 7, "...using the built-in KVM switch..."; Manual titled "Intel® Server Management Module SBCECMM: Installation and User's Guide"; page 1, "...and a keyboard/video/mouse (KVM) multiplexor...") and each of the BMCs (please see below) , an output function switching unit connected to the microprocessor unit and each of the servers unit (White paper titled "Simplifying Complexity Blades Management in the Data Center"; page 7, "...using the built-in KVM switch..."; Manual titled "Intel® Server Management Module SBCECMM: Installation and User's Guide"; page 1, "...and a keyboard/video/mouse (KVM) multiplexor..."), an interrupt unit connected to the microprocessor unit and each of the BMCs (the interrupt unit is inherently present in the Intel SBCECMM as will be described below), at least one set of input connection ports connected to the microprocessor unit and the input device (White paper titled "Simplifying Complexity Blades Management in the Data Center"; Cover Sheet shows the Intel SBCECMM with 3 input ports, a keyboard, a mouse, and a LAN port ; page 7, "...using the built-in KVM switch..."; Manual titled "Intel® Server Management Module SBCECMM:

Installation and User's Guide"; page 1, "...and a keyboard/video/mouse (KVM)

multiplexor..."), and at least one set of output connection ports connected to the

microprocessor unit and the output device (White paper titled "Simplifying

Complexity Blades Management in the Data Center"; Cover Sheet shows the Intel

SBCECMM with an RGB video output ; page 7, "...using the built-in KVM

switch..."; Manual titled "Intel® Server Management Module SBCECMM:

Installation and User's Guide"; page 1, "...and a keyboard/video/mouse (KVM)

multiplexor...");

- wherein when the control module of one of the servers is activated, the BMC of

  the corresponding server outputs an interrupt request signal to the interrupt unit of

  the switching device, so as to allow the interrupt unit to determine if the interrupt

  request signal is transmitted from the server whose control module is activated,

  and to forward the determination result to the microprocessor unit, whereby the

  microprocessor unit generates an input switch request signal that is transmitted to

  the input function switching unit, and generates an output switch request signal

  that is transmitted to the output function switching unit, such that according to the

  input and output switch request signals respectively, the input function switching

  unit and the output function switching unit each generates and transmits a

  corresponding switch driving signal to the BMC of the server whose control

  module is activated, and such that this server who receives the switch driving

  signals is allowed to receive an input signal from the input device through the

  corresponding BMC, the input function switching unit and the input connection

ports, and to consequently execute operations according to the input signal, as

well as to output the operational result to the output device through the output

function switching unit and the output connection ports (article titled "Intel®

Server Compute Blade SBXL52"; page 2, "Front Panel Buttons…This button is

for associating the keyboard port, mouse port, and video port with this blade

server; the LED on this button flashes while the request is being processed, then is

steady when ownership has been transferred to the blade server…").

d.   When a user of the Intel SBCE Server Chassis requires keyboard/video/mouse

access to a particular server blade of the chassis, they simply press a button on the front

of the blade server (article titled "Intel® Server Compute Blade SBXL52"; page 2, "Front

Panel Buttons…This button is for associating the keyboard port, mouse port, and video

port with this blade server; the LED on this button flashes while the request is being

processed, then is steady when ownership has been transferred to the blade server…").

The recited paragraph discloses an LED associated with the blade server flashes while the

request for keyboard/video/mouse ownership is being processed. The Examiner

understands this request to be equivalent to the sending of an interrupt upon pressing the

control module since the SBCECMM of the server chassis is the only device mentioned

in the system to have an "Integrated KVM switch" (article titled "Intel Server

Management for Blades" page 2). In other words, since the SBCECMM is the only

module in the SBCE server chassis with an integrated KVM switch, all

interrupts/requests for input/output port access must be handled by SBCECMM.

Furthermore the manual titled "Intel® Server Management Module SBCECMM:

Installation and User's Guide" discloses (page 1), "The service processor in the

management module communicates with the service processor (BCM) in each blade

server for such functions as: ...Blade server requests for keyboard, mouse, and video."

Therefore the blade servers must communicate an interrupt/request to the

SBCECMM/switching device (more specifically the microprocessor of) to be given

input/output port ownership. Internal signals of the SBCECMM instructing the built-in

KVM switch to switch the input/output ports to a given blade server must also be present

in order for the SBCECMM to function as described in various references. Also, a

previously recited passage stated that the LED associated with a blade server's

input/output port request will flash while the request is being processed and then remain

lit steadily "when ownership has been transferred to the blade server." Therefore, it is an

inherent feature of the SBCE Server chassis that upon completion of the input/output port

switching the service processor of the SBCECMM must inform the blade server that it

has ownership of the ports. This is supported by the LED staying constantly lit when

ownership of the input/output ports has been transferred to the blade server.

e.   Regarding 2, the Intel Server Chassis SBCE discloses: The I/O unit access

switching system of claim 1, wherein the input connection port is connected to a

keyboard or mouse (White paper titled "Simplifying Complexity Blades Management in

the Data Center"; Cover Sheet shows the Intel SBCECMM with 3 input ports, a

keyboard, a mouse, and a LAN port ; page 7, "...using the built-in KVM switch...";

Manual titled "Intel® Server Management Module SBCECMM: Installation and User's

Guide"; page 1, "...and a keyboard/video/mouse (KVM) multiplexor...").

f.   Regarding claim 3, the Intel Server Chassis SBCE discloses: The I/O unit access

switching system of claim 1, wherein the output connection port is connected to a

monitor (White paper titled "Simplifying Complexity Blades Management in the Data

Center"; Cover Sheet shows the Intel SBCECMM with 1 RGB video output port that is to

be connected to a monitor ; page 7, "...using the built-in KVM switch..."; Manual titled

"Intel® Server Management Module SBCECMM: Installation and User's Guide"; page

1, "...and a keyboard/video/mouse (KVM) multiplexor...").

g.   Regarding claim 4, the Intel Server Chassis SBCE discloses: The I/O unit access

switching system of claim 1, wherein the control module is a switch (article titled "Intel®

Server Compute Blade SBXL52"; page 2, "Front Panel Buttons"; A button is a type of

switch).

h.   Regarding claim 6, the Intel Server Chassis SBCE discloses: The I/O unit access

switching system of claim 1, wherein the output function switching unit is a multiplexer

(White paper titled "Simplifying Complexity Blades Management in the Data Center";

Cover Sheet shows the Intel SBCECMM with 1 RGB video output port that is to be

connected to a monitor ; page 7, "...using the built-in KVM switch..."; Manual titled

"Intel® Server Management Module SBCECMM: Installation and User's Guide"; page

1, "…and a keyboard/video/mouse (KVM) multiplexor…").

i.   Regarding claim 9, the Intel Server Chassis SBCE discloses: The I/O unit access

switching method of claim 8, wherein each of the servers has a control module for

generating the request for access to the I/O devices (please see section 4 subsection d

above).

j.   Regarding claim 10, the Intel Server Chassis SBCE discloses: The I/O unit access

switching method of claim 9, wherein the control module is a switch (please see section 4

subsection g).

k.   Regarding claim 12, the Intel Server Chassis SBCE discloses: The I/O unit access

switching method of claim 8, wherein the I/O devices include an input device that is a

keyboard or mouse (please see section 4 subsection e).

l.   Regarding claim 13, the Intel Server Chassis SBCE discloses: The I/O unit access

switching method of claim 8, wherein the I/O devices include an output device that is a

monitor (please see section 4 subsection f).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 5, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

Intel Server Chassis SBCE as applied to claims 1 and 8 above, and further in view of the I^2C

Specification (January 2000).

As discussed above, the Intel Server Chassis SBCE teaches of a server blade (SBXL52) with a

front panel button used to send an interrupt/request to a service processor within a switching

device (SBCECMM) such that the service processor instructs an embedded KVM switch to

associate the input/output ports of the Chassis to the particular blade server whose button/switch

was pressed. The Intel Server Chassis further teaches USB is used to communicate input/output

signals (from the keyboard, video [of the server blade], or mouse) from the server blade

(SBXL52) and the switching device (SBCECMM) (manual titled "Intel® Server Chassis SBCE:

Installation and User's Guide"; page 21). The Intel Server Chassis fails to teach internal

communications between the input/output devices and the server blades adhering to the I^2C

protocol.

The I^2C Specification teaches the I^2C is an excellent choice for device communication because:

•   Only two bus lines are required; a serial data line (SDA) and a serial clock line

(SCL)

- Each device connected to the bus is software addressable by a unique address and simple master/slave relationships exist at all times; masters can operate as master-transmitters or as master-receivers

- Design-time reduces as designers quickly become familiar with the frequently used functional blocks represented by I2C-bus compatible ICs

- ICs can be added to or removed from a system without affecting any other circuits on the bus

- Fault diagnosis and debugging are simple; malfunctions can be immediately traced (page 4)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to implement the communication bus between the SBCECMM integrated KVM switch and the SBXL52 blade server service processor as an I²C bus because the simple 2-wire serial I2C-bus minimizes interconnections so ICs have fewer pins and there are not so many PCB tracks; result - smaller and less expensive PCBs.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it pertains to the field of keyboard/video/mouse switching between computer systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M. Stiglic whose telephone number is 571.272.3641. The examiner can normally be reached on Monday - Friday (6:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571.272.3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMS

PAUL R. MYERS
PRIMARY EXAMINER